BSI Low Power SRAM

Brilliance Semiconductor, Inc.
SRAM Business Group
November, 2008

Low Power SRAM Application I

I: Low Standby Current:

Backup memory for holding data by sharing battery of device.

Backup memory driven by battery for suddenly system power off.

Application:

Medical Instruments	POS E-Dictionary	E-Learning Gadgets (Toy)
Handheld Game	GPS / Car Navigator	Parking Meter
Moisture analyzer	Wireless Measurement	Tire Pressure Measure
Hand Held Gas Monitor	Transport System for Automobile	
Video gaming for Casino	Vending Machine	Music Instrument
Science Calculator	Power Supply	Car Stereo
Airport Luggage Weight Measurement		Blood Pressure Measurement

Low Power SRAM Application II

II: Small / Simple System:

Main memory for small system.

Working memory for simple timing system.

Application:

POS system	IC Card Reader /Casino	FAX Machine (Brother) IPC
PLC	Medical Timer	Wind Turbine Control Wave Scope
Weight Measurement	Cash Register	Security System
Cordless Phone	Temperature Measure	Power Line Meter
Bar code Reader	STB	Printer / Scanner

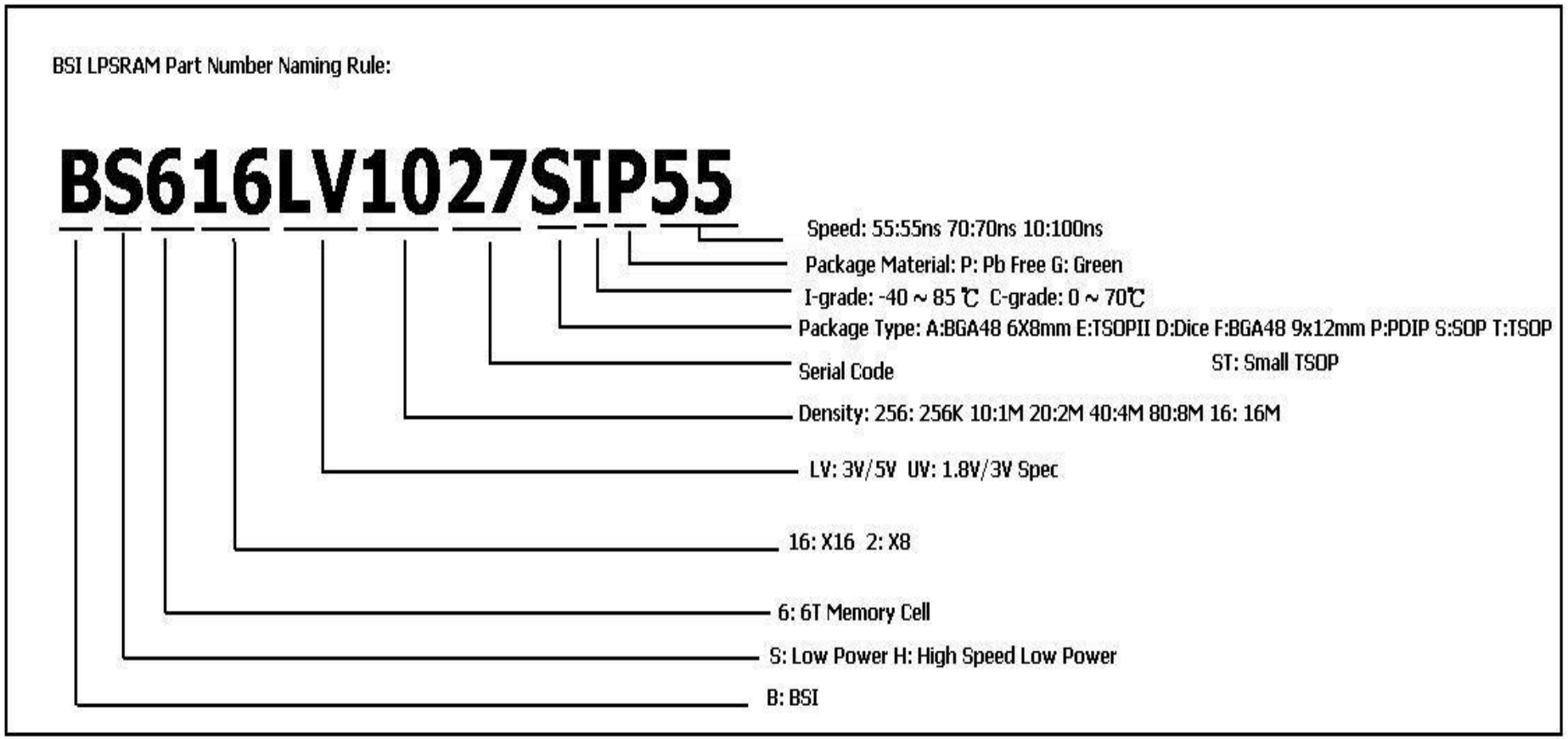
III: Others:

Memory for 5V system

Application:

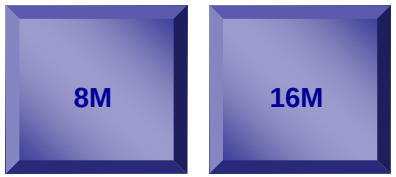
Textile Machine PLC Industrial Control

BSI Low Power SRAM Naming Rule

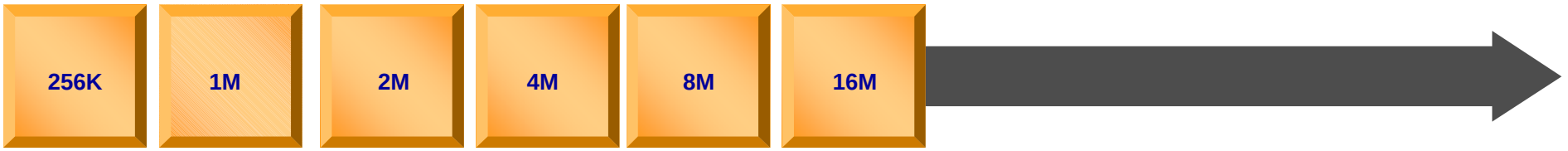

BSI LPSRAM Part Number Naming Rule:
BS616LV1027SIP55
Speed: 55:55ns 70:70ns 10:100ns
Package Material: P: Pb Free G: Green
I-grade: -40 ~ 85 ℃ C-grade: 0 ~ 70℃
Package Type: A:BGA48 6X8mm E:TSOPII D:Dice F:BGA48 9x12mm P:PDIP S:SOP T:TSOP
ST: Small TSOP
Serial Code
Density: 256: 256K 10:1M 20:2M 40:4M 80:8M 16: 16M
LV: 3V/5V UV: 1.8V/3V Spec
16: X16 2: X8
6: 6T Memory Cell
S: Low Power H: High Speed Low Power
B: BSI

BSI Low Power SRAM Lineup

BH Series SRAM (1.65V - 3.6V)



BS Series SRAM (2.4V - 5.5V)



(Available) 2007 2008 2009 2010

BSI Low Power SRAM Lineup I
BS Series Low Density

ROHS Compliant

256Kb

Voltage	Part Number	Configuration	Package						status
			PDIP	SOP	TSOP	sTSOP	TSOPII	BGA	
2.4 - 5.5V	BS62LV256	32K X 8	V	V	V	-	-	-	MP

1M

Voltage	Part Number	Configuration	Package						status
			PDIP	SOP	TSOP	sTSOP	TSOPII	BGA	
2.4 - 5.5V	BS62LV1027	128K X 8	V	V	V	V	-	-	MP
2.4 - 5.5V	BS616LV1010	64K X 16	-	-	-	-	V	V	MP

Low Standby current: 25℃ 3V, BSI: 0.1~0.11uA (256k)
Long Term Production more than 10 years (256k)
Fast Access Time: 55ns Max
Keep Production stable

BSI Low Power SRAM Lineup II
BS Series Middle Density

ROHS Compliant

2M

Voltage	Part Number	Configuration	Package						status
			PDIP	SOP	TSOP	sTSOP	TSOPII	BGA	
2.4 - 5.5V	BS62LV2006	256K X 8	-	V	V	V	-	-	MP
2.4 - 3.6V	BS616LV2019	128K X 16	-	-	V	-	-	V	MP
2.4 - 5.5V	BS616LV2016	128K X 16	-	-	-	-	V	V	MP

4M

Voltage	Part Number	Configuration	Package						status
			PDIP	SOP	TSOP	sTSOP	TSOPII	BGA	
2.4 - 5.5V	BS62LV4006	512K X 8	V	V	V	V	V	-	MP
2.4 - 5.5V	BS616LV4017	256K X 16	-	-	-	-	V	V	MP

Full package type lineup
Wide Range 2.4V ~ 5.0 V support
Keep production and supply stable
Fast Access Time 55ns Max

BSI Low Power SRAM Lineup III
BS Series Higher Density

ROHS Compliant

8M

Voltage	Part Number	Configuration	Package		status
			TSOPII	BGA	
2.4 - 5.5V	BS62LV8001	1M X 8	V	-	MP
2.4 - 5.5V	BS616LV8017	512K X 16	V	V	MP

16M

Voltage	Part Number	Configuration	Package			status
			TSOPI	TSOPII	BGA	
2.4 - 5.5V	BS62LV1600	2M X 8	-	V	-	MP
2.4 - 5.5V	BS616LV1611	1M X 16	V	-	V	MP

5.0 V support
Keep production and supply stable
Low Standby current

BSI Low Power SRAM Lineup IV
BH Series Higher Density

ROHS Compliant

BH8M

Voltage	Part Number	Configuration	Package		status
			TSOPI	BGA	
1.65 – 3.6V	BH62UV8001	1M X 8	-	V	MP
1.65 – 3.6V	BH616UV8011	512K X 16	V	V	MP

BH16M

Voltage	Part Number	Configuration	Package	status
			BGA	
1.65 – 3.6V	BH62UV1600	2M X 8	V	MP
1.65 – 3.6V	BH616UV1611	1M X 16	V	MP

Wide Low operation voltage: 1.65V - 3.6 V
Ultra low Power Consumption
Keep production and supply stable

Advantage of BSI Low Power SRAM I

1. Focus and long term support LP SRAM

BSI only focus on LP SRAM and in LP SRAM business more than 12 years.

2. Complete LP SRAM product family

Operation Voltage: 1.65V-3.6V , 2.4V-5.5V

Density: 256Kbits, 1Mbit, 2Mbits, 4Mbits, 8Mbits, 16Mbits

Package: SOP, TSOP, TSOPII, sTSOP, BGA, PDIP

3. Contribution of system performance

(Ultra Low Standby current) (Low Operation power consumption)

256Kbits (25℃ 3V, BSI: 0.1~0.11uA, R-Company: 0.3~1.0uA L-Company: 0.3~0.4uA)

(Better AC Electrical Characteristics)

256Kbits Compare to the most major SRAM brand

BSI LPSRAM is easier compatible and failure rate is much lower.

Advantage of BSI Low Power SRAM II

5. Environment friendly

ROHS Compliant, IEQC080000 Certified

6. Wide Range Operation Voltage LP SRAM

(BS Series 2.4V-5.5V)
(BH Series 1.8V -3.6V)

7. Pin to Pin Compatible with most major SRAM brand products like Samsung, Cypress and Renesas

(Enclose with the major brand cross reference table)

BSI Low Power SRAM Cross Reference Table

Density	Config.	Part No.	Speed (ns)	Iccsb1			Icc			Voltage (V)	Samsung	Cypress	Renesas	ISSI
				Typical (at 25C)			3V		5V					
				2V	3V	5V	1MHz	fmax	fmax					
256K	x8	BS62LV256	70	0.05uA	0.1uA	0.4uA	1mA	20mA	35mA	2.4~5.5			M5M5256D-G	
										2.4~3.6	K6X0808T1D	CY62256V		IS62LV256AL
										4.5~5.5	K6X0808C1D	CY62256	M5M5256D-L	IS62C256AL
1M	x8	BS62LV1027	55/70	0.1uA	0.2uA	0.6uA	1mA	15mA	40mA	2.4~5.5				
										2.4~3.6	K6F1008V2D	CY62128DV30	M5M5V108D	IS62WV1288BLL
											K6X1008T2D	CY62128V		
										4.5~5.5	K6X1008C2D	CY62128B	M5M51008D	IS62C1024AL
	x16	BS616LV1010	55/70	0.1uA	0.2uA	0.4uA	1mA	20mA	40mA	2.4~5.5				
										2.4~3.6	K6F1016U4C	CY62126DV30		IS62WV6416BLL
												CY62127DV30		
										4.5~5.5				

Density	Config.	Part No.	Speed (ns)	Iccsb1			Icc			Voltage (V)	Samsung	Cypress	Renesas	ISSI
				Typical (at 25C)			3V		5V					
				2V	3V	5V	1MHz	fmax	fmax					
2M	x8	BS62LV2006	55/70	0.1uA	0.3uA	1.0 uA	1mA	20mA	45mA	2.4~5.5				
										2.4~3.6	K6F2008S2E		M5M5V208A	IS62WV2568BLL
											K6F2008T2E			
											K6F2008U2E			
											K6F2008V2E			
										4.5~5.5				
	x16	BS616LV2016	55/70	0.1uA	0.3uA	1.0 uA	1mA	25mA	45mA	2.4~5.5				
										2.4~3.6	K6F2016S4E	CY62136CV/30/33		IS62WV12816BLL
											K6F2016U4E	CY62136V		
											K6F2016V4E	CY62137CV/30/33		
												CY62137V	M5M5V216A	
										4.5~5.5				
		BS616LV2019	55/70	0.1uA	0.3ua	N.A	1mA	25mA	N.A.	2.4~3.6				
		BS616UV2019	85/100	0.1uA	0.3ua	N.A	1mA	25mA	N.A.	1.8~3.6				

Density	Config.	Part No.	Speed (ns)	Iccsb1			Icc			Voltage (V)	Samsung	Cypress	Renesas	ISSI
				Typical (at 25C)			3V		5V					
				2V	3V	5V	1MHz	fmax	fmax					
4M	x8	BS62LV4006	55/70	0.3uA	0.45uA	2.0uA	1mA	25mA	60mA	2.4~5.5				
										2.4~3.6	K6F4008U2G	CY62148CV30/33	HM62V8512C	IS62WV5128BLL
											K6X4008T1F	CY62148DV30/33	M5M5V408B	
												CY62148V	R1LV0408C	
										4.5~5.5	K6X4008C1F	CY62148B	HM628512C	
													R1LP0408C	
	x16	BS616LV4017 BS616LV4016	55/70	0.3uA	0.45uA	2.0uA	1mA	27mA	65mA	2.4~5.5				
										2.4~3.6	K6F4016U4G	CY62146CV30/33	HM62V16256C	IS62WV25616BLL
											K6X4016T3F	CY62146DV30/33	R1LV0416C	
												CY62146V		
												CY62147CV30/33		
												CY62147DV30/33		
												CY62147V		
										4.5~5.5	K6X4016C3F			
		BS616UV4016	85/100	0.3uA	0.45uA	N.A	1mA	27mA	N.A.	1.8~3.6				

Density	Config.	Part No.	Speed (ns)	Iccsb1			Icc			Voltage (V)	Samsung	Cypress	Renesas	ISSI
				Typical (at 25C)			3V		5V					
				2V	3V	5V	1MHz	f_{max}	f_{max}					
8M	x8	BS62LV8001	55/70	0.5uA	1.5uA	8.0uA	2mA	30mA	75mA	2.4~5.5				
										2.7~3.6	K6X8008T2B	CY62158CV30/33 CY62158DV30	HM62V8100	IS62WV10248DBLL
										4.5~5.5	K6X8008C2B		HM628100	
		BH62UV8001	55/70	2.0uA	2.0uA	N.A	1.5mA	9mA	N.A.	1.65~3.6				
	x16	BS616LV8017	55/70	0.5uA	1.5uA	8.0uA	2mA	30mA	75mA	2.4~5.5				
										2.7~3.6	K6X8016T3B		M5M5W816TP	IS62WV51216BLL
										4.5~5.5	K6X8016C3B		HM6216514	
		BS616LV8016	55/70	0.5uA	1.5uA	8.0uA	2mA	30mA	75mA	2.4~5.5				
										2.7~3.6	K6F8016T6C	CY62157CV30/33		
											K6F8016U6C/D	CY62157DV30/33	M5M5W816WG	
										4.5~5.5				
		BH616UV8011	55/70	2.0uA	2.0uA	N.A	1.5mA	9mA	N.A.	1.65~3.6				

Density	Config.	Part No.	Speed (ns)	Iccsb1			Icc			Voltage (V)	Samsung	Cypress	Renesas	ISSI
				Typical (at 25C)			3V		5V					
				2V	3V	5V	1MHz	f_{max}	f_{max}					
16M	x8	BS62LV1600	55/70	0.5uA	1.5uA	8.0 uA	2mA	30mA	75mA	2.4~5.5				
										2.7~3.6				
										4.5~5.5				
		BH62UV1601	55/70	3.0uA	3.0uA	N.A	1.5mA	10mA	N.A.	1.65~3.6				
	x16	BS616LV1611	55/70	0.5uA	1.5uA	8.0 uA	2mA	35mA	90mA	2.4~5.5				
										2.7~3.6	K6F1616T6C K6F1616U6B/C	CY62167DV30	HM62V16100	
										4.5~5.5				
		BH616UV1611	55/70	3.0uA	3.0uA	N.A	1.5mA	10mA	N.A.	1.65~3.6	K6F1616R6B/C	CY62167DV18/20		

Controlled condition for the opened bag

The bag contains moisture and electrostatic sensitive device. Please open this bag under controlled conditions.

I. Bag storage environment: Below 30℃/60%R.H.

II. You can process solder reflow directly when humidity Indicator card to verify that the 30% position is blue.

III. If the humidity Indicator card turned pink on 30% position.
Rebake the device at 125 ℃ for 10 hours beside thin package for 6 hours before use.

IV. The contents must be mounted after opening with in 168hours at <30℃/60%R.H.

www.brilliancesemi.com

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